

CLAIMS

1. A piercing device wherein an outer tube is rotatably supported on one of shafts, which are eccentrically arranged relative to each other, so that it can be driven for rotation, wherein a plurality of piercing needles are arranged on the other of the shafts in said outer tube, said plurality of piercing needles being spaced from each other in a circumferential direction, and projecting radially outwards, and being independently rotatable, each said piercing needle being adapted to be extended and retracted relative to an outer surface of the outer tube, via a through hole formed in the outer tube, wherein a needle restraining member is rotatably supported on said the other shaft, for transmitting torque to the piercing needles when driven for rotation, wherein said piercing needles are rotatably supported on said the other shaft via needle support members, respectively, and wherein said piercing needles and further piercing needles, which are rotatable integrally with the said piercing needles, are fixedly connected to said needle support members in an axial juxtaposition with each other.

2. The piercing device according to claim 1, wherein said outer tube and said needle support members are connected to a driving means for driving them at a constant speed.

3. The piercing device according to claim 1 or 2, wherein a rotating radius of said outer surface of the outer tube and a rotating radius of a tip end of each said piercing needle are the same with each other, and an amount of eccentricity of said shafts is within a range of 10-15 mm.